


FORM PTO-1390 (Modified) (REV 11-2000)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER <b>219581US0PCT</b>	
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371</b>				U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR <b>10/p49640</b> )	
INTERNATIONAL APPLICATION NO. <b>PCT/JP00/05634</b>		INTERNATIONAL FILING DATE <b>23 AUGUST 2000</b>		PRIORITY DATE CLAIMED <b>24 AUGUST 1999 (EARLIEST)</b>	
TITLE OF INVENTION <b>COSMETICS</b>					
APPLICANT(S) FOR DO/EO/US <b>Norikazu IWASE, et al.</b>					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
<ol style="list-style-type: none"> <li><input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li><input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li><input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.</li> <li><input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31).</li> <li><input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c) (2))             <ol style="list-style-type: none"> <li><input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li><input checked="" type="checkbox"/> has been communicated by the International Bureau.</li> <li><input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li><input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).             <ol style="list-style-type: none"> <li><input checked="" type="checkbox"/> is attached hereto.</li> <li><input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</li> </ol> </li> <li><input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))             <ol style="list-style-type: none"> <li><input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li><input type="checkbox"/> have been communicated by the International Bureau.</li> <li><input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li><input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li><input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li><input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).</li> <li><input checked="" type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).</li> <li><input type="checkbox"/> A copy of the International Preliminary Examination Report (PCT/IEPA/409).</li> <li><input checked="" type="checkbox"/> A copy of the International Search Report (PCT/ISA/210).</li> </ol>					
<b>Items 13 to 20 below concern document(s) or information included:</b>					
<ol style="list-style-type: none"> <li><input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li><input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li><input type="checkbox"/> A <b>FIRST</b> preliminary amendment.</li> <li><input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.</li> <li><input type="checkbox"/> A substitute specification.</li> <li><input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li><input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.</li> <li><input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4).</li> <li><input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).</li> <li><input type="checkbox"/> Certificate of Mailing by Express Mail</li> <li><input checked="" type="checkbox"/> Other items or information:            Notice of Priority / PCT/IB/304 / PCT/IB/308            Drawing (1 sheet) / PTO-1449            Amended Sheets (18, 19, 20 &amp; 21)         </li> </ol>					

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.492) <b>10/049640</b>		INTERNATIONAL APPLICATION NO. <b>PCT/JP00/05634</b>		ATTORNEY'S DOCKET NUMBER <b>219581US0PCT</b>	
24. The following fees are submitted:				<b>CALCULATIONS PTO USE ONLY</b>	
<b>BASIC NATIONAL FEE ( 37 CFR 1.492 (a) (1) - (5) ) :</b>					
<input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO .....				<b>\$1040.00</b>	
<input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO .....				<b>\$890.00</b>	
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO .....				<b>\$740.00</b>	
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) .....				<b>\$710.00</b>	
<input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) .....				<b>\$100.00</b>	
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				<b>\$890.00</b>	
Surcharge of \$130.00 for furnishing the oath or declaration later than _____ months from the earliest claimed priority date (37 CFR 1.492 (e)). <input type="checkbox"/> 20 <input type="checkbox"/> 30				<b>\$0.00</b>	
<b>CLAIMS</b>	<b>NUMBER FILED</b>	<b>NUMBER EXTRA</b>	<b>RATE</b>		
Total claims	7 - 20 =	0	x \$18.00	<b>\$0.00</b>	
Independent claims	2 - 3 =	0	x \$84.00	<b>\$0.00</b>	
Multiple Dependent Claims (check if applicable).				<input checked="" type="checkbox"/> <b>\$280.00</b>	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				<b>\$1,170.00</b>	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				<b>\$0.00</b>	
<b>SUBTOTAL =</b>				<b>\$1,170.00</b>	
Processing fee of \$130.00 for furnishing the English translation later than _____ months from the earliest claimed priority date (37 CFR 1.492 (f)). <input type="checkbox"/> 20 <input type="checkbox"/> 30				<b>\$0.00</b>	
<b>TOTAL NATIONAL FEE =</b>				<b>\$1,170.00</b>	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). <input type="checkbox"/>				<b>\$0.00</b>	
<b>TOTAL FEES ENCLOSED =</b>				<b>\$1,170.00</b>	
				<b>Amount to be:</b>	
				<b>refunded</b>	<b>\$</b>
				<b>charged</b>	<b>\$</b>
a. <input checked="" type="checkbox"/> A check in the amount of <u>\$1,170.00</u> to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>15-0030</u> . A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. <b>WARNING:</b> Information on this form may become public. <b>Credit card information should not be included on this form.</b> Provide credit card information and authorization on PTO-2038.					
<b>NOTE:</b> Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:					
 <b>22850</b> Surinder Sachar Registration No. 34,423			SIGNATURE _____ <b>Norman F. Oblon</b> NAME _____ <b>24,618</b> REGISTRATION NUMBER _____ <b>Feb. 25 2002</b> DATE _____		

(703) 413-3000

1/pk

DESCRIPTION

COSMETICS

5 TECHNICAL FIELD

The present invention relates to cosmetics highly efficacious in ameliorating chapped skin and roughened skin and having effects of improving skin qualities such as dry skin or sensitive skin.

10

BACKGROUND ART

Ceramides which are one of intercellular lipids in a stratum corneum are well known to fulfill an important role in the moisturizing function and barrier function of the skin, and it has been reported that the content of ceramides is low in a stratum corneum of a person having dry skin or sensitive skin. Therefore, it has been attempted to apply an external skin care composition containing a natural ceramide, a ceramide analog and/or a phospholipid to such a skin to supply the ceramides decreased in the stratum corneum, thereby improving the function of the skin (Japanese Patent Application Laid-Open Nos. 228048/1987, 216812/1988, 66604/1991, 193754/1991 and 282304/1992, etc.).

25

In the case of the person having dry skin or sensitive skin, however, such an external skin care composition has involved a problem that its improving

effect on chapped skin and roughened skin does not last, and an itch or eczema occurs even for simple irritation because the skin is particularly sensitive, or dermal trouble is easy to occur when nervous stress builds up.

- 5 Accordingly, there is a demand for development of a cosmetic more effective on dry skin or sensitive skin.

On the other hand, sesquiterpene compounds such as guaiol and cedrol have an inhibitory effect on production of melanine, and external skin care compositions  
10 incorporating such a sesquiterpene compound are also known (Japanese Patent Application Laid-Open Nos. 36246/1998 and 36247/1998).

An external skin care composition (Japanese Patent Application Laid-Open No. 128120/1994) incorporating a  
15 bioactive substance, a sesquiterpene and a water-soluble polyhydric alcohol is also known. However, the bioactive substance used herein is absorbed in a subcutaneous tissue or migrates into a systemic bloodstream through the skin to act, and does not remain in epidermis, particularly, the  
20 stratum corneum to ameliorate chapped skin and roughened skin.

It is an object of the present invention to provide a cosmetic highly efficacious in ameliorating chapped skin and roughened skin even in dry skin or sensitive skin.

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#### DISCLOSURE OF THE INVENTION

The present inventors have found that when a lipid

contained in the stratum corneum or an analog thereof and a terpene component are used in combination, a cosmetic which is greatly improved in effects of ameliorating chapped skin and roughened skin even in dry skin or sensitive skin compared with the single use of these substances, and also excellent in effects of improving skin qualities is provided.

The present invention provides to a cosmetic comprising one or more components selected from lipids contained in the stratum corneum and analogs thereof, and another terpene component than menthol.

The present invention also provides to a cosmetic comprising 0.01 to 60 % by weight of one or more components selected from lipids contained in the stratum corneum and analogs thereof, and 0.05 to 20 % by weight of another terpene component than menthol.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 illustrates examples of the structures of ceramides.

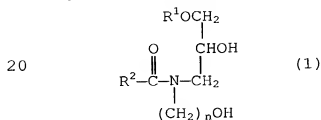
#### BEST MODE FOR CARRYING OUT THE INVENTION

Examples of the lipids contained in the stratum corneum used in the present invention include intercellular lipids in the stratum corneum, such as natural ceramides, ceramide analogs, steroids, fatty acid esters of steroids, fatty acids and triglycerides, and besides cerebroside and

phospholipids. Among these, natural ceramides, ceramide analogs, phospholipids and fatty acid esters of steroids are preferred.

One or more of known ceramides (ceramides 1 to 7 (Fig. 1) shown on page 2067 in Journal of Lipid Research, Vol. 35, 2060-2068 (1994), etc.) present between cells in the stratum corneum are preferably used as the natural ceramides.

The ceramide analogs include those represented by the following general formulae (1) to (4) and described in Japanese Patent Application Laid-Open No. 216812/1988 (general formula (1)), Japanese Patent Application Laid-Open No. 319263/1996 (general formula (2)), Japanese Patent Application Laid-Open No. 193754/1991 (general formula (3)) and Japanese Patent Application Laid-Open No. 282304/1992 (general formula (4)).

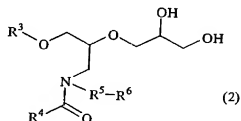


wherein  $\text{R}^1$  is a hydrocarbon group having 10 to 26 carbon atoms,  $\text{R}^2$  is a hydrocarbon group having 9 to 25 carbon atoms, and  $n$  is a number of 2 to 6.

In the formula,  $\text{R}^1$  is preferably a linear or branched alkyl or alkenyl group having 10 to 26 carbon atoms, with an alkyl group having 10 to 18 carbon atoms being particularly preferred.  $\text{R}^2$  is preferably a linear or

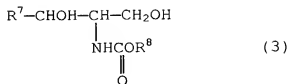
branched alkyl or alkenyl group having 9 to 25 carbon atoms, with an alkyl group having 9 to 21 carbon atoms being particularly preferred.

5



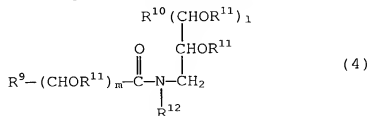
wherein  $\text{R}^3$  and  $\text{R}^4$  are the same or different from each other and are, independently, a hydrocarbon group having 1 to 40 carbon atoms, which may be hydroxylated,  $\text{R}^5$  is an alkylene group having 1 to 6 carbon atoms or a single bond, and  $\text{R}^6$  is a hydrogen atom, an alkoxy group having 1 to 12 carbon atoms or a 2,3-dihydroxypropyloxy group, with the proviso that  $\text{R}^6$  is a hydrogen atom when  $\text{R}^5$  is a single bond.

15 In the formula,  $\text{R}^3$  is preferably a linear or branched alkyl or alkenyl group having 8 to 26 carbon atoms, with an alkyl group having 12 to 22 carbon atoms being particularly preferred.  $\text{R}^4$  is preferably a linear or branched alkyl or alkenyl group having 9 to 25 carbon atoms, with an alkyl group having 11 to 21 carbon atoms being particularly preferred.  $\text{R}^5$  is preferably a linear or branched alkylene group having 1 to 6 carbon atoms, with that having 1 to 3 carbon atoms being particularly preferred.  $\text{R}^6$  is preferably a hydrogen atom, a linear or branched alkoxy group having 1 to 8 carbon atoms or a 2, 3-dihydroxy-propyloxy group.

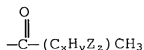


wherein  $\text{R}^7$  is an alkyl or alkenyl group having 11 to 21 carbon atoms, and  $\text{R}^8$  is a hydrocarbon group having 3 to 30 carbon atoms.

In the formula,  $\text{R}^7$  is preferably an alkyl group having 13 to 17 carbon atoms.  $\text{R}^8$  is preferably a linear or branched alkyl or alkenyl group having 8 to 24 carbon atoms.



wherein  $\text{R}^9$  is an aliphatic hydrocarbon group having 1 to 49 carbon atoms, which may be hydroxylated, phosphorylated or sulfated, or a sub-substituent group,  $\text{-(C}_a\text{H}_b\text{)-O-Y}$  (Y being a hydrogen atom or a fatty acid residue having 14 to 22 carbon atoms represented by the following formula:



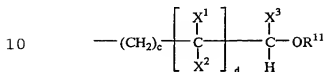
(Z being  $\text{-OH}$ ,  $\text{-OP}_1$ ,  $\text{-OSO}_3^-$  or epoxy oxygen, x being a number of 12 to 20, y being a number of 20 to 40, and z being a number of 0 to 4), a being a number of 7 to 49, and b being a number of 10 to 98);  $\text{R}^{10}$  is an aliphatic hydrocarbon group having 1 to 28 carbon atoms, which may be hydroxylated, phosphorylated or sulfated;  $\text{R}^{11}$  is a hydrogen atom, a saccharide residue, a sulfuric acid residue or a phosphoric acid residue  $\text{P}_1$  ( $\text{P}_1$  being a group:





5

$\text{R}^{12}$  is a hydrogen atom or a sub-substituent group:



10

( $\text{X}^1$ ,  $\text{X}^2$  and  $\text{X}^3$  being, independently, a hydrogen atom or an alkyl group having 1 to 5 carbon atoms, which may be hydroxylated, c being a number of 0 to 4, d being 0 or 1, and  $\text{R}^{11}$  having the same meaning as defined above); and l and m are, independently, 0 or 1, with the proviso that  $l + m$  is 1 or 2 when the number of carbon atoms in  $\text{R}^9$  is 9 to 49.

20

In the formula,  $\text{R}^9$  is preferably a linear or branched alkyl or alkenyl group having 6 to 32 carbon atoms, with an alkyl group having 10 to 20 carbon atoms being particularly preferred.  $\text{R}^{10}$  is preferably a linear or branched alkyl or alkenyl group having 8 to 22 carbon atoms, with an alkyl group having 10 to 20 carbon atoms being particularly preferred.

25

$\text{R}^{11}$  is preferably a hydrogen atom, and  $\text{R}^{12}$  is preferably a hydroxyethyl group.

30

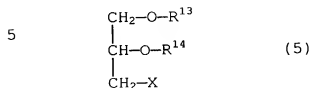
Among these analogs, the ceramide analogs represented by the general formula (1) or (2) are particularly preferred.

The phospholipids include those described in, for

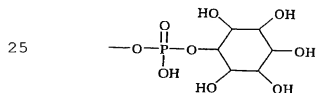
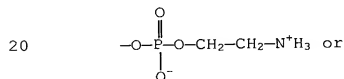
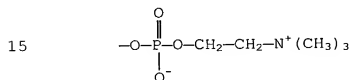
example, Japanese Patent Application Laid-Open No.

66604/1991 and represented by the following general formula

(5) :

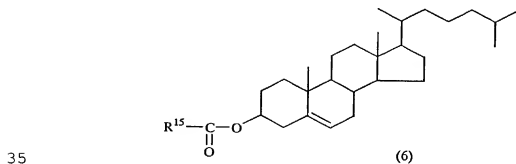


10 wherein one of R<sup>13</sup> and R<sup>14</sup> is  $\text{-C(=O)-C}_{17}\text{H}_{35}$  or  $\text{-C(=O)-C}_{15}\text{H}_{31}$ , and the other is a hydrogen atom, and X is



The fatty acid esters of steroids are preferably cholesterol fatty acid esters represented by the following

30 formula (6):



wherein R<sup>15</sup> is a hydrocarbon group having 1 to 25 carbon

atoms, which may be hydroxylated.

The lipids contained in the stratum corneum or the analogs thereof may be used alone or in combination and are preferably contained in a proportion of 0.01 to 60 % by weight, particularly 0.05 to 40 % by weight, more preferably 0.1 to 20 % by weight based on the total weight of the cosmetic composition because the resulting cosmetic composition can give users a pleasant feeling upon use.

Examples of the terpene component include terpene hydrocarbons belonging to monoterpene, sesquiterpene or diterpene, terpene alcohols other than menthol, terpene aldehydes, terpene ketones, etc.. Terpene hydrocarbons and terpene alcohols other than menthol are particularly preferred, with sesquiterpene hydrocarbons and sesquiterpene alcohols being more preferred.

The terpene hydrocarbons include  $\alpha$ -pinene,  $\beta$ -pinene, camphene, limonene, myrcene,  $\beta$ -caryophyllene, etc.; the terpene alcohols include linalool, geraniol, nerol, citronellol, lavandulol, myrcenol,  $\alpha$ -terpineol, borneol, nopol, isobornylcyclohexanol, farnesol, nerolidol, santalol, cedrol, guaiol, vetiverol, patchouli alcohol, etc. Among these, farnesol, santalol, cedrol, guaiol, vetiverol and patchouli alcohol are preferred.

A terpene component which is substantially odorless like cedrol is advantageous in that the degree of freedom of incorporation into a cosmetic composition is high because no influence is imposed on preference for smell.

In the present invention, extracts, steam distilled products or pressed products of plants containing these terpene components may also be used, and such use is preferred.

5           Examples of such a plant include cedar wood, patchouli, sandal wood, vetiver, ginger root, cimin, thick-haired codium, pepper, rosemary, rose, jasmine, *Valeriana fauriei*, Japanese honeysuckle, thyme, tea and guaiac wood. Cedar wood, patchouli, sandal wood, vetiver, ginger root, 10 pepper, rosemary, rose, jasmine, Japanese honeysuckle and guaiac wood are particularly preferred, with cedar wood, patchouli, sandal wood, vetiver and guaiac wood being more preferred.

          These plants may be subjected to extraction, steam 15 distillation, pressing or the like in accordance with a method known *per se* in the art, and the fractions may be further fractionated for use. Essential oils obtained by further purifying these fractions or those derived by a reaction such as acetylation may also be used.

20           The terpene components may be used alone or in combination, and combined use of at least two of these terpene components or use of a plant extract containing two or more terpene components is particularly preferred because the effects of improving skin qualities are more 25 enhanced.

          The terpene component is preferably contained in a proportion of at least 0.05 % by weight, particularly 0.05

to 20 % by weight, more preferably 0.1 to 20 % by weight, still more preferably 1.0 to 10 % by weight based on the total weight of the cosmetic composition from the viewpoint of the effects of ameliorating chapped skin and roughened skin in the dry skin or sensitive skin.

Besides the above-described components, ingredients commonly incorporated in cosmetic compositions, for example, surfactants, oils, amino acids, other moisturizers, powder, ultraviolet light absorbents, gelling agents, anti-inflammatory agents, antioxidants, pH adjusters, menthol and other perfume bases, etc. may be suitably incorporated in the cosmetics according to the present invention.

The cosmetics according to the present invention can be prepared in accordance with a method known *per se* in the art, and may be formulated into any forms such as a solution type, emulsion type, powder-dispersed solution type, powder-dispersed emulsion type and powder-dispersed oil type. The cosmetics according to the present invention are suitable for skin cosmetic compositions such as skin care cosmetic compositions such as toilet lotions, cosmetic emulsions, creams, beauty compositions and cosmetic oils, and makeup cosmetic compositions such as foundations, face powder, lipsticks, cheek rouges, eye shadows and nail enamels. Among others, the cosmetics according to the present invention are particularly preferably provided as skin care cosmetic compositions for ameliorating chapped skin and roughened skin and improving skin qualities such

as dry skin or sensitive skin.

#### EXAMPLES

##### Example 1:

5       Cosmetic emulsions of their corresponding  
formulations shown in Tables 1 and 2 were prepared in  
accordance with a method known *per se* in the art, and  
evaluated as to the effects of ameliorating chapped skin  
and roughened skin, and improving skin qualities. The  
10       results are shown collectively in Tables 1 and 2.  
(Evaluation methods)

(1) Degree of amelioration in chapped skin and roughened  
skin:

15       Ten women (aged 20 to 30 years) having a chapped skin  
or roughened skin as panelists were got to use each of the  
cosmetics twice a day (morning and night) for a week,  
thereby comparing the conditions of the chapped skin or  
roughened skin before and after the use of the cosmetic to  
evaluate it in accordance with the following standard. The  
20       results are shown as an average value.

5: Ameliorated more markedly than before use;

4: Ameliorated more considerably than before use;

3: Ameliorated more slightly than before use;

2: Not much more changed than before use;

25       1: Not more changed at all than before use; and

0: Worsened.

(2) Degree of improvement in skin qualities:

Ten women (aged 20 to 30 years) as panelists, who had felt their own skin be sensitive, were got to use each of the cosmetics twice a day (morning and night) for a month, thereby comparing the easiness of occurrence of chapped  
5 skin or roughened skin in every-day life with before the use of the cosmetic to evaluate it in accordance with the following standard. The results are shown as an average value.

- 10 5: Chapped skin or roughened skin was markedly harder to occur than before use;
- 4: Chapped skin or roughened skin was considerably harder to occur than before use;
- 3: Chapped skin or roughened skin was slightly harder to occur than before use;
- 15 2: Not much more changed than before use, and chapped skin or roughened skin sometimes occurred;
- 1: Not more changed than before use, and chapped skin or roughened skin often occurred;
- 20 0: Chapped skin or roughened skin was easier to occur before the use.

Table 1

Component (% by weight)	Invention product				Comparative product		
	1	2	3	4	1	2	3
Ceramide analog <sup>*1</sup>	3	3	3	3	10	-	-
Patchouli oil <sup>*2</sup>	5	-	-	2.5	-	5	-
Cedar wood oil <sup>*3</sup>	-	5	-	2.5	-	5	-
Cedrol	-	-	5	-	-	-	-
Isostearyl glyceryl ether	2	2	2	2	2	2	2
Sorbitan monostearate	2	2	2	2	2	2	2
2-Octyldodecyl myristate	10	10	10	10	10	10	10
Squalane	5	5	5	5	5	5	5
Glycerol	5	5	5	5	5	5	5
Purified water	Bal.	Bal.	Bal.	Bal.	Bal.	Bal.	Bal.
Degree of amelioration in chapped skin and roughened skin	4.6	4.8	4.5	4.9	2.5	1.8	0.8
Degree of improvement in skin qualities	4.6	4.2	4.2	5.0	1.8	2.2	1.0

\*1: N-(3-Hexadecyloxy-2-hydroxypropyl)-N-2-hydroxyethyl-hexadecanamide.

\*2: Containing 30 % by weight of patchouli alcohol and 20 % by weight of caryophyllene.

\*3: Containing 24 % by weight of cedrol.

Table 2

Component (% by weight)	Invention product			
	5	6	7	8
Ceramide analog <sup>*1</sup>	3	3	3	3
Patchouli oil <sup>*2</sup>	0.5	-	-	0.25
Cedar wood oil <sup>*3</sup>	-	0.5	-	0.25
Cedrol	-	-	0.5	-
Isostearyl glyceryl ether	2	2	2	2
Sorbitan monostearate	2	2	2	2
2-Octyldodecyl myristate	10	10	10	10
Squalane	5	5	5	5
Glycerol	5	5	5	5
Purified water	Bal.	Bal.	Bal.	Bal.
Degree of amelioration in chapped skin and roughened skin	4.0	4.1	4.0	4.2
Degree of improvement in skin qualities	4.0	3.6	3.6	4.2



As apparent from Tables 1 and 2, the combined use of a lipid contained in the stratum corneum or an analog thereof and a terpene component permitted extremely markedly ameliorating chapped skin and roughened skin even  
 5 in dry skin or sensitive skin compared with the single use of these substances.

Example 2: (Toilet lotion)

A toilet lotion having a composition shown below was prepared in a method known *per se* in the art.

10	(Component)	(% by weight)
	Vetiver oil (containing 60 % by weight of vetiverol)	2.0
	Ceramide analog *1	1.0
	Polyoxyethylene (20) sorbitan monolaurate	1.5
15	Glycerol	2.0
	Paraben	0.1
	Purified water	Balance

Example 3: (O/W type cosmetic emulsion)

An O/W type cosmetic emulsion having a composition  
 20 shown below was prepared in a method known *per se* in the art.

	(Component)	(% by weight)
	Sandal wood oil (containing 73 % by weight of santalol)	2.0
25	Cetyl alcohol	1.0
	Vaseline	2.0
	Squalane	6.0

	Dimethyl polysiloxane	2.0
	Glycerol	2.0
	Ceramide analog *4	1.0
	Polyoxyethylene (10) monooleate	1.0
5	Glycerol monostearate	1.0
	Paraben	0.2
	Purified water	Balance

\*4: N-(3-Hexadecyloxy-2-hydroxypropyl)-N-2-hydroxyethylhexadecanamide.

10 Example 4: (W/O type cream)

A W/O type cream having a composition shown below was prepared in a method known *per se* in the art.

(Component)		(% by weight)
	Guaiac wood oil (containing 64 % by weight of guaiol)	2.0
15	Dimethyl polysiloxane	10.0
	Methylphenyl polysiloxane	3.0
	Octamethylcyclotetrasiloxane	12.0
	Polyoxyalkylene-modified silicone	5.0
20	1,3-Butylene glycol	6.0
	Ceramide analog *5	1.2
	Paraben	0.2
	Perfume base	Trace
	Purified water	Balance

25 \*5: N-[2-(2,3-Dihydroxypropyloxy)-3-hexadecyloxy-propyl]-N-3-methoxypropyltetradecanamide.

All the cosmetics obtained in Examples 2 to 4 were

highly efficacious in ameliorating chapped skin and roughened skin, and had effects of improving skin qualities such as dry skin or sensitive skin.

#### 5 INDUSTRIAL APPLICABILITY

The cosmetics according to the present invention are highly efficacious in ameliorating chapped skin and roughened skin and have effects of improving skin qualities such as dry skin or sensitive skin.

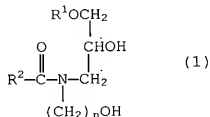
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# CLAIMS

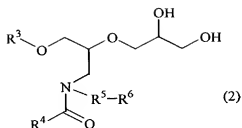
1. (Amended) A cosmetic comprising 0.01 to 60 % by weight of one or more components selected from lipids contained in the stratum corneum and analogs thereof, and 0.05 to 20 % by weight of a terpene component selected from the group consisting of  $\alpha$ -pinene,  $\beta$ -pinene, camphene, limonene,  $\beta$ -caryophyllene,  $\alpha$ -terpineol, borneol, nopol, isobornylcyclohexanol, santalol, cedrol, guaiol, vetiverol and patchouli alcohol.

2. (Amended) The cosmetic according to Claim 1, wherein the lipids contained in the stratum corneum and analogs thereof are selected from among natural ceramides, ceramide analogs and fatty acid esters of steroids.

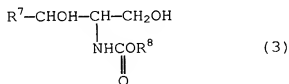
3. (Amended) The cosmetic according to Claim 1 or 2, wherein the lipids contained in the stratum corneum are ceramide analogs represented by the general formulae (1) to (4):



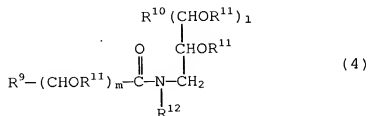
wherein  $\text{R}^1$  is a hydrocarbon group having 10 to 26 carbon atoms,  $\text{R}^2$  is a hydrocarbon group having 9 to 25 carbon atoms, and n is a number of 2 to 6;



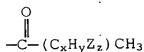
wherein  $\text{R}^3$  and  $\text{R}^4$  are the same or different from each other and are, independently, a hydrocarbon group having 1 to 40 carbon atoms, which may be hydroxylated,  $\text{R}^5$  is an alkylene group having 1 to 6 carbon atoms or a single bond, and  $\text{R}^6$  is a hydrogen atom, an alkoxy group having 1 to 12 carbon atoms or a 2,3-dihydroxypropyloxy group, with the proviso that  $\text{R}^6$  is a hydrogen atom when  $\text{R}^5$  is a single bond;



wherein  $\text{R}^7$  is an alkyl or alkenyl group having 11 to 21 carbon atoms, and  $\text{R}^8$  is a hydrocarbon group having 3 to 30 carbon atoms; and



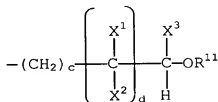
wherein  $\text{R}^9$  is an aliphatic hydrocarbon group having 1 to 49 carbon atoms, which may be hydroxylated, phosphorylated or sulfated, or a sub-substituent group,  $-(\text{C}_6\text{H}_5)_n-\text{O}-\text{Y}$  (Y being a hydrogen atom or a fatty acid residue having 14 to 22 carbon atoms represented by the following formula:



(wherein Z is -OH, -OP<sub>1</sub>, -OSO<sub>3</sub><sup>-</sup> or epoxy oxygen, x is a number of 12 to 20, y is a number of 20 to 40, and z is a number of 0 to 4), a is a number of 7 to 49, and b is a number of 10 to 98); R<sup>10</sup> is an aliphatic hydrocarbon group having 1 to 28 carbon atoms, which may be hydroxylated, phosphorylated or sulfated; R<sup>11</sup> is a hydrogen atom, a saccharide residue, a sulfuric acid residue or a phosphoric acid residue P<sub>1</sub> (P<sub>1</sub> being a group:



R<sup>12</sup> is a hydrogen atom or a sub-substituent group:



(wherein X<sup>1</sup>, X<sup>2</sup> and X<sup>3</sup> are, independently, a hydrogen atom or an alkyl group having 1 to 5 carbon atoms, which may be hydroxylated, c is a number of 0 to 4, d is 0 or 1, and R<sup>11</sup> has the same meaning as defined above); and l and m are, independently, 0 or 1, with the proviso that l + m is 1 or 2 when the number of carbon atoms in R<sup>9</sup> is 9 to 49.

4. (Amended) The cosmetic according to any one of Claims 1 to 3, wherein the terpene component is selected from the group consisting of santalol, cedrol, guaiol,

vetiverol and patchouli alcohol.

5. (Amended) The cosmetic according to any one of Claims 1 to 4, wherein the terpene component is an extract, a steam distilled product or a pressed product of a plant.

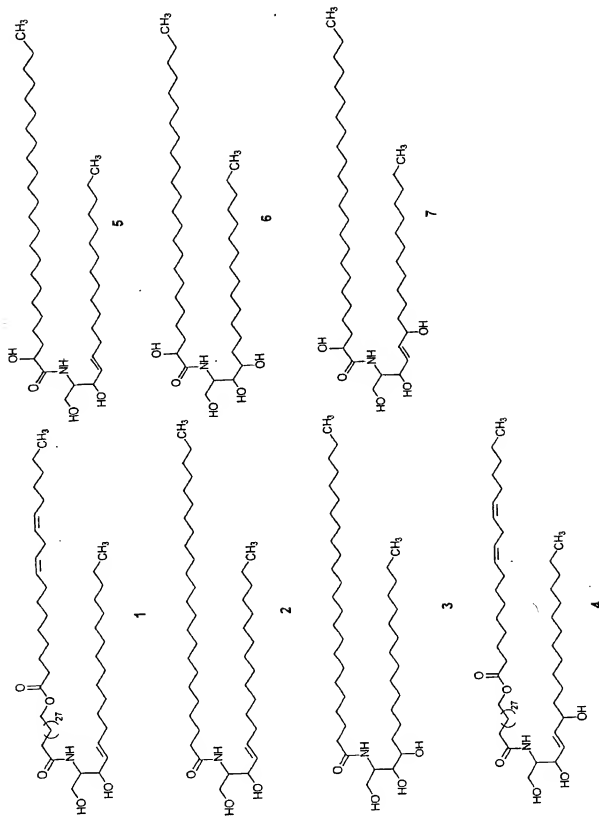
6. A cosmetic comprising one or more components selected from lipids contained in the stratum corneum and analogs thereof, and cedrol.

## ABSTRACT

Cosmetics containing one or more components selected from lipids contained in the stratum corneum and analogs  
5 thereof, and terpene components other than menthol. The cosmetics are highly efficacious in ameliorating chapped skin and roughened skin and have effects of improving skin qualities such as dry skin or sensitive skin.



Fig. 1



## Declaration and Power of Attorney For Patent Application

## 特許出願宣言書及び委任状

## Japanese Language Declaration

## 日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。

私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。

下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者（下記の名称が複数の場合）であると信じています。

化粧品料

上記発明の明細書は、

☐ 本書に添付されています。

☒ 2000年8月23日に提出され、~~米国出願番号~~または特許協定条約国際出願番号を PCT/JP00/05634 とし、

（該当する場合） \_\_\_\_\_ に訂正されました。

私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。

私は、連邦規則法典第37編第1条56項に定義されたとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled.

COSMETICS

the specification of which

☐ is attached hereto.

☒ was filed on August 23, 2000  
as ~~United States Application Number~~  
PCT International Application Number  
PCT/JP00/05634 and was amended on  
\_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

**Japanese Language Declaration**  
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私は、米国法典第35編119条 (a) - (d) 項又は365条 (b) 項に基づき下記の、米国以外の国の少なくとも一カ国を指定している特許協力条約365 (a) 項に基づく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。

Prior Foreign Application(s)

外国での先行出願

11-236826

(Number)  
(番号)

Japan

(Country)  
(国名)

11-267317

(Number)  
(番号)

Japan

(Country)  
(国名)

私は、第35編米国法典119条 (e) 項に基づいて下記の米国特許出願規定に記載された権利をここに主張いたします。

(Application No.)  
(出願番号)

(Filing Date)  
(出願日)

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(Application No.)  
(出願番号)

(Filing Date)  
(出願日)

(Application No.)  
(出願番号)

(Filing Date)  
(出願日)

私は、私自信の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じているところに基づく表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第18編第1001条に基づき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。

I hereby claim foreign priority under Title 35, United States Code, Section 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Claimed

優先権主張

24/08/1999

(Day/Month/Year Filed)  
(出願年月日)

☒

☐

Yes

No

はい

いいえ

21/09/1999

(Day/Month/Year Filed)  
(出願年月日)

☐

☐

Yes

No

はい

いいえ

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

(Application No.)  
(出願番号)

(Filing Date)  
(出願日)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.

(Status: Patented, Pending, Abandoned)  
(現況：特許許可済、係属中、放棄済)

(Status: Patented, Pending, Abandoned)  
(現況：特許許可済、係属中、放棄済)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: *(list name and registration number)*



**Send Correspondence to:**



Direct Telephone Calls to: (name and telephone number)

(703) 413-3000

単独発明者または第一の共同発明者の氏名 岩瀬 範和 発明者の署名 Norikazu Iwase 住所 131-8501 日本国東京都墨田区文花 2-1-3 花王株式会社研究所内 国籍 日本国 郵便の宛先 住所と同じ	Full name of sole or first joint inventor Norikazu IWASE Inventor's signature Date Residence C/O KAO CORPORATION RESEARCH LABORATORIES 1-3, BUNKA 2-CHOME, SUMIDA-KU, TOKYO 131-8501 JAPAN Citizenship JAPANESE Post Office Address SAME AS ABOVE
第二の共同発明者の氏名 堀 公彦 第二の共同発明者の署名 Kimihiko Horie 住所 321-3497 日本国栃木県芳賀郡市貝町赤羽 2606 花王株式会社研究所内 国籍 日本国 郵便の宛先 住所と同じ	Full name of second joint inventor, if any Kimihiko HORI Second joint inventor's signature Date Residence C/O KAO CORPORATION RESEARCH LABORATORIES 2606, Akabane, Ichikari-machi, Haga-gun, TOCHIGI 321-3497 JAPAN Citizenship JAPANESE Post Office Address SAME AS ABOVE

(Supply similar information and signature for third and subsequent joint inventors.)

## Japanese Language Declaration

(日本語宣言書)

第三の共同発明者の氏名	野々村 真美	Full name of third joint inventor, if any	3-80 Mami NONOMIURA
第三の共同発明者の署名	日付	Third joint Inventor's signature	Date
Mami Nonomura	Jan., 29, 2002		
住所	321-3497 日本国栃木県芳賀郡市貝町赤羽 2606	Residence	C/O KAO CORPORATION RESEARCH LABORATORIES
	花王株式会社研究所内		2606, Akabane, Ichikai-machi, Haga-gun, TOCHIGI 321-3497 JAPAN
国籍	日本国	Citizenship	JAPANESE JPN
郵便の宛先	住所に同じ	Post Office Address	SAME AS ABOVE

第四の共同発明者の氏名		Full name of fourth joint inventor, if any	
第四の共同発明者の署名	日付	Fourth joint Inventor's signature	Date
住所		Residence	
国籍		Citizenship	
郵便の宛先		Post Office Address	

第五の共同発明者の氏名		Full name of fifth joint inventor, if any	
第五の共同発明者の署名	日付	Fifth joint Inventor's signature	Date
住所		Residence	
国籍		Citizenship	
郵便の宛先		Post Office Address	

第六の共同発明者の氏名		Full name of sixth joint inventor, if any	
第六の共同発明者の署名	日付	Sixth joint Inventor's signature	Date
住所		Residence	
国籍		Citizenship	
郵便の宛先		Post Office Address	

(第六またはそれ以降の共同発明者に対しても同様な情報および署名を提供すること。)

(Supply similar information and signature for third and subsequent joint inventors.)